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THE REALITY BEYOND THE HYPE
THREE-DIMENSIONAL APPLICABILITY

DEVO Lab's HIT Radar framework helps organizations identify and evaluate use cases where artificial intelligence (AI) can concretely improve business processes and create sustainable value. In line with the post-digital approach, it provides a balanced perspective on the potential of AI, distinguishing opportunities for real impact from technological hype. Through a structured analysis of selected use cases, the framework makes it possible to assess their actual applicability considering three key dimensions: proximity to adoption, business impact and speed of evolution, and integrating internal and external factors such as infrastructure and regulation.

MANAGEMENT//INNOVATION//GENAI//SUSTAINABILITY//LARGE LANGUAGE MODEL (LLM)

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The technology landscape is often characterized by a succession of fads that either prove ephemeral or become permanently integrated into business processes and everyday life (Chen, Kazman and Matthes, 2015). Over the past decade, three technologies have stood out in terms of their anticipated impact:

- The Cloud promised unprecedented flexibility and modularity, allowing businesses to scale resources dynamically with superior cost efficiency (Bello et al., 2021).
- Big Data, along with the introduction of data lakes (vast repositories of unstructured data), was expected to offer a radically innovative way of collecting and analyzing information by using massive data analytics to predict trends,

improve decision-making, and personalize user experiences (Wang, Kung, and Byrd, 2018).
- Blockchain, initially driven by the explosion of bitcoin, brought with it the hope of radically decentralizing money transfers, with expected benefits in terms of security and traceability (Tapscott and Tapscott, 2018). However, its impact has been significant only in a few specific sectors, and its applications have turned out to be more limited than initially expected and restricted to certain business contexts (mainly due to technical challenges and high costs).

Looking at the diffusion of these technologies, we can see that some have indeed achieved massive and pervasive adoption, as in the case of the cloud, while for others, such as blockchain, expectations have diminished due to the lack of widespread and sustainable large-scale use cases.

Artificial intelligence (AI) is arguably the most talked about and potentially most promising technology today. With the advent of ChatGPT, millions of people have experienced the accessibility of generative AI, creating tremendous hype around the topic. Although AI did not emerge in 2024, its popularity, especially following the global success of ChatGPT, is unparalleled. AI is now predicted to become a driver of transformative change, helping companies to improve decision-making, personalize customer interactions, and streamline operations, among other things. Despite this excitement, it's worth asking whether AI might follow a similar trajectory to blockchain. In fact, there is a possibility that the current hype around AI may lead to expectations that exceed its actual value. To avoid "technological overenthusiasm," a structured and critical approach to AI is essential.

The aim of this article is to provide a balanced and thoughtful analysis of AI in 2024, adopting a *post-digital* approach (Castelli, G., Meregalli, S., & Pennarola, F., 2022) which seeks to go beyond simplistic views of AI, emphasizing a comprehensive digital strategy that identifies and properly assesses technological trends. Through the structured analysis outlined in the following sections, we will review the most prominent AI use cases, with the aim of mitigating the hype surrounding AI and focusing on applications where businesses can genuinely derive value today.

A POST-DIGITAL APPROACH TO AI

As we previously mentioned, this article adopts a post-digital approach, based on DEVO Lab's HIT Radar methodology, which includes multiple sequential phases (Abbatemarco N., 2022). The first phase consisted of a multi-sector desk analysis to tap into the most relevant discussions around AI. The second phase focused on the systematization of the resulting database, allowing us to pinpoint the most discussed elements related to AI. Finally, we conducted an in-depth analysis of these elements.

Our research started with a technology scouting phase in which we found 56 specialized sources, including industry reports, technology analysis articles and consultancy studies, for a total of 92 documents. From these sources, 154 technological elements emerged that were relevant to AI, forming the basis for our preliminary analysis. This phase provided a systematic overview of the AI application landscape, resulting in the identification of six application areas, recurring themes across all our sources, which are of particular relevance to this article:

- **Generative AI Bots for Customer Interactions**: Using chatbots to enhance and personalize customer interactions.
- **Generative AI for Marketing Optimization**: Tools for optimizing marketing campaigns and messages.
- **Generative AI for Personal Productivity**: Solutions to improve personal efficiency and productivity.
- **AI for Demand Forecasting**: AI-based systems for forecasting customer demand.
- **Intelligent Document Management (IDM)**: Applications for advanced management and processing of business documents.

- **AI for Automated Image Analysis**: Technologies for automated image analysis.

We analyzed these six applications using a multidimensional framework that considers three primary factors: *distance*, ***impact***, and *speed*. The first assesses how close a technology is to practical adoption, considering technological maturity, compatibility with existing infrastructure, regulatory alignment, accessible skills, and financial feasibility. A high score on distance indicates greater readiness for adoption. The second dimension, impact, measures the benefits that the technology could bring to the company, evaluating aspects such as economic performance, organizational advantages, and effect on sustainability goals (ESG). This evaluation focuses on the positive repercussions the technology can have at various levels of the organization. The third dimension, speed, refers to how fast the technology is evolving, i.e., the pace at which it is advancing and disseminating, examining direct investment, regulatory changes, skill diffusion, and infrastructure development. Therefore, this framework provides a comprehensive view of the positioning and potential impact of each application, which we will detail in the following section.

THE MOST RELEVANT AI APPLICATIONS

From the perspective of a medium to large company operating in Italy, all the AI and generative AI applications we considered proved to be fully experimentable or adoptable, with a moderate potential impact and a high or very high rate of evolution. These findings confirm both the feasibility and the relevance of pursuing business innovation in these areas.

Generative AI Bots for Customer Interactions

Customer interaction chatbots are currently one of the most hotly debated applications in generative AI. These tools consist of conversational interfaces designed to assist users with a variety of tasks, such as technical troubleshooting support, help with using a tool, purchase of new products, and more. Unlike previous iterations, these generative chatbots go beyond pre-programmed responses to provide more dynamic contextual responses.

Many companies are currently experimenting with these chatbots, particularly in customer service, sales, and internal support. These trials are often limited to specific business functions to test effectiveness and manage interactions in a controlled setting. A key focus of ongoing projects is to analyze the quality of responses generated, the accuracy of suggestions made, and the extent to which these chatbots can resolve issues without human intervention, monitored by user feedback. Typically, these solutions are based on AI models produced by external providers, such as specialized AI companies (e.g., OpenAI, Anthropic, Meta) or cloud providers (e.g., Google, Microsoft, Amazon Web Services). These basic models, known as Large Language Models (LLMs), are characterized by their complexity and high development costs. By starting with available market solutions, the chatbot can integrate foundational knowledge from the basic training dataset and further customize it to meet specific business needs. These customizations often use techniques such as Retrieval-Augmented Generation (RAG), which extends the model's standard knowledge base and amplifies its ability to provide relevant responses.

In terms of the distance dimension, this application is primed and ready for extensive experimentation or, in some contexts, full adoption. Accelerated technological progress in the last two years has paved the way to accessing core technologies, leading to the emergence of several specialized providers. Despite these promising advances, formidable challenges remain that could limit widespread adoption. Key risks include potential inaccuracies in the answers provided to users (so-called "AI hallucinations"). While certain techniques can mitigate these risks, close performance monitoring is always required to avoid potential problems for businesses. Also essential is the need to effectively integrate these chatbots

with existing information systems, ensuring that corporate data and internal functionalities are easily accessible and interconnected. Although this challenge is common to most digital applications, it's sometimes underestimated when there is a technology like in the picture, which seems to lower the barriers to entry. For the same reason, data accuracy and quality, along with proper preparation and cleansing, are critical prerequisites for creating a use case that is both contextual and aligned with business needs.

From an impact perspective, we are currently in an assessment phase, with a proliferation of experimental studies and use cases emerging in the public domain. Ongoing testing shows promising signs, such as increased operational efficiency, but the effectiveness of these chatbots still needs to be verified in different contexts. For this reason, many companies initially deploy these tools for internal use, to assist human operators in customer support or troubleshooting tasks, before aiming for full autonomy in customer interactions.

In terms of the expected speed of evolution, the pace of innovation in this area is particularly rapid, driven by sizeable investments across different sectors and continuous regulatory progress, especially in Europe, where new norms will be phased in over the coming years. Meanwhile, the foundational technologies for these types of chatbots are being quickly updated, with new language model versions and continuous improvements. Such changes are fueling intense competition in a burgeoning market for enterprise applications.

Generative AI for Marketing Optimization

Generative AI for marketing optimization aims to help companies enhance the personalization of messages and communication campaigns. These tools are designed to autonomously generate content based on data analysis of customer characteristics, tailoring promotional messages to the specific profiles of target users. Compared to traditional methods, generative AI can support more autonomous and continuous personalization for the segments in question, with the goal of increasing the relevance and appropriateness of messages for each audience group.

Currently, many companies are testing generative AI in contexts such as email marketing, social media campaigns, and ad content generation for digital channels. These experiments often focus on the automated creation of text, images, and ad copy to optimize engagement and conversion rates. The actual development of these solutions follows a technological approach very similar to the one described in the previous application, involving customization of AI models already available on the market or a full-buy approach.

From the perspective of distance and impact, generative AI in this domain is similar to its application with chatbots. Various use cases and experiments are proliferating across all industries, with the goal of improving the effectiveness of customer communications in many ways. For example, a company focused on beauty and skin care is building and testing a system to create personalized messages for different customer targets, segmented by age range and predicted usage preferences for the product. Based on the same product description, the tool allows for customization of promotional copy, emphasizing aspects that may be more relevant to each target audience.

Despite promising experiments, we are still in the early stages of evaluation, and more evidence of economic and organizational impact will be needed to validate the widespread adoption of these approaches. A key consideration is the need to tailor available market models to the company's tone of voice and the specific characteristics of the targeted application area.

Generative AI for Personal Productivity

AI for personal productivity covers a wide range of applications designed to upgrade the efficiency of individual work activities, Which can range from more general tasks such as text processing, summarization, and information extraction from unstructured data, to more specialized tasks such

as programming. Programming and generative assistants that support developers are of particular interest. Many companies have started to test these tools in this area, facilitated by the accessibility of off-the-shelf products on the market. For instance, the widespread adoption of GitHub Copilot, which is intuitively integrated into the workflows of many organizations, has undoubtedly contributed to the popularity of this application.

Of course, there are many alternatives available, each with a slightly different focus or specialization. At the same time, some companies are taking a more customized approach to integrating generative tools for personal productivity. For example, Goldman Sachs, which has been experimenting with developer support solutions for months, has decided to build a proprietary technology platform to incorporate externally pre-trained AI models that are subsequently fine-tuned for specific use cases. This approach undoubtedly requires greater capability and resources for technical oversight, but also provides far more technological flexibility.

In terms of the distance dimension, these solutions are already being adopted in various contexts and tested in many others. On the impact side, several experiments have been conducted in recent months to isolate productivity effects. For example, research on several thousand programmers from three large companies showed a 26% upsurge in average weekly productivity, although this benefit was achieved with a sharp decline based on age and seniority. Additionally, other studies have shown that while code written by programmers using generative tools may be more exposed to security risks, the programmers themselves perceive it as entirely safe and of high quality. This finding has implications not only for the performance of AI, which is constantly evolving and improving, but also for understanding the perceptions of workers equipped with generative AI. These insights can prove valuable in planning and supporting adoption within companies. In addition to these applications, the we found three application areas linked to more traditional AI techniques that could be equally useful in various contexts.

AI for Demand Forecasting

Customer demand forecasting systems are already in use across various business sectors. These systems often rely on traditional machine learning approaches to generate forecasts. They differ significantly from the cases described above both in terms of the technological approach and the underlying methodology. Generative AI models, for instance, are typically characterized by high complexity, substantial data requirements, and considerable computing power for training. In contrast, traditional machine learning approaches follow different principles. In the case of generative AI, companies on the demand side of the technology market will often rely, at least in part, on externally developed solutions. Conversely, with traditional machine learning, creating an internal predictive model using company-specific training data and techniques suited to the specific problem is often the most effective way to achieve desired outcomes.

Given the maturity of the techniques underlying these types of forecasts, such systems are already in use in many sectors. For example, a residential electricity provider in Italy recently updated its demand forecasting system, which must be reported in advance to the system operator, using a machine learning approach. Predictions based on historical data have achieved an accuracy rate of more than 96%.

In light of the above, demand forecasting applications appear to be well-established, both in terms of distance and impact. However, two potential limitations should be noted when evaluating this application. The first relates to the alignment of a forecasting system with the value creation mechanisms specific to the industry and company. In some fields, making reliable predictions based on historical user behavior data or external market factors may not be particularly helpful or realistic, as consumer behavior and purchasing trends may depend on numerous variables that are difficult to capture. Regardless of

the quality of the model, the lack of data that can effectively take into account all of the influencing factors may limit the actual benefits. The second limitation is the need to have the right data quality and management infrastructure in place to effectively develop and operate these models.

Intelligent Document Management (IDM)

Intelligent Document Management (IDM) is a set of digital technologies that automate and intelligently manage classify, store, and retrieve documents. This technology goes beyond traditional document management systems by integrating AI capabilities that support categorization, automatic data extraction, and content analysis to accelerate business workflows.

In terms of adoption readiness, IDM shows a high level of technological maturity, as it is already widely implemented in many companies and has a well-defined infrastructure ready for most business environments. Today's IDM solutions are compatible with digital and management systems, reducing integration costs and fostering interoperability. An established regulatory framework for managing and preserving digital data further enhance IDM readiness, particularly for companies in highly regulated sectors such as finance and healthcare. (In Europe this framework is subject to ongoing updates.)

The economic impact of IDM can be considerable, as this technology helps reduce document management time and costs, boost efficiency, and minimize manual errors in business processes.

Organizationally, IDM facilitates more streamlined and structured document management, promoting more agile business practices and an efficient operational structure. IDM also has a positive impact on sustainability by reducing paper consumption, promoting greener document management, and supporting governance through improved data management traceability and compliance.

AI for Automated Image Analysis

AI for automated image analysis includes advanced technologies that use deep learning models to process, interpret, and classify images in real time. This approach enables companies to automate quality control, medical diagnostics, and security analysis, sharply cutting analysis time and improving operational accuracy.

This application has reached a high level of technological maturity, with increasingly sophisticated algorithms capable of recognizing complex patterns and pinpointing specific details within images, often with performance comparable to or exceeding that of human operators. While the infrastructure required to implement these solutions can vary in different contexts, many companies already have the necessary hardware and software to handle large-scale image processing. Industry-specific regulations are evolving, especially in highly regulated areas such as healthcare, where accuracy and transparency are essential. Implementation costs are gradually becoming more affordable, making this technology relatively close to adoption for any number of organizations, and many specialized providers are available.

In terms of expected advantages stemming from adoption, this application offers substantial economic benefits, especially in sectors such as manufacturing and healthcare, where accurate image analysis can dramatically reduce the cost of errors and enhance operational efficiency. From an organizational perspective, this technology facilitates a shift toward more accurate, automated processes, potentially improving the quality and

speed of business decisions. Regarding sustainability, AI for image analysis contributes positively to process governance and operational traceability. Consequently, the overall impact of AI in this area can be rated as medium-high, with a broad range of economic and operational benefits.

In conclusion, AI for automatic image analysis is a mature, ready-to-deploy application with a potentially high impact and a rapid rate of evolution. Companies seeking to optimize control, quality, and safety processes can significantly benefit from this technology by leveraging its ability to improve operational accuracy and efficiency.

CONCLUSIONS

In this article we presented a post-digital approach to AI, emphasizing the need for a pragmatic view that seeks to manage expectations around AI technologies and escape the hype of the moment, always with the goal of creating business value. DEVO Lab's HIT Radar methodology is a structured framework that can help companies apply this mindset in practice by analyzing potentially relevant AI use cases through assessments in terms of distance to potential adoption, expected business impact, and anticipated speed of evolution. Each dimension is supported by a detailed assessment of different variables that capture both endogenous and exogenous elements (e.g., business infrastructure readiness, regulation).

Based on an analysis of more than 90 technical documents, we identified six recurring AI-enabled use cases and evaluated them using the HIT Radar methodology:

- **Generative AI Bots for Customer Interactions** improves customer service with conversational AI, providing contextual support and increasing operational efficiency through automation.
- **Generative AI for Marketing Optimization** supports highly personalized marketing campaigns by generating tailored content for specific targets to boost engagement and conversion rates.
- **Generative AI for Personal Productivity**: assists individuals with tasks such as text processing and programming, escalating efficiency and productivity.
- **AI for Demand Forecasting** leverages traditional machine learning to finetune demand forecasting, supporting resource planning and inventory management with high accuracy.
- **Intelligent Document Management (IDM)**: automates document categorization, data extraction and retrieval to improve workflow efficiency and reduce errors.
- **AI for Automated Image Analysis**: automates real-time image interpretation for tasks such as quality control and diagnostics, delivering precision in industries such as manufacturing and healthcare.

We found that sll of these AI applications are ready for advanced experimentation and eventual adoption. By integrating methodologies such as the HIT Radar approach, organizations can conduct progressive, iterative evaluations to assess potential AI use cases and avoid investments driven by the hype effect.

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